

### Abstract

Airborne particles are impacted on a collection surface, analyzed, and then the collection surface is  
5 regenerated. Thus, the same collection surface can be used  
in numerous cycles. The analysis can be focused on one or  
more properties of interest, such as the concentration of  
airborne biologicals. Sensors based on regenerative  
collection surfaces may be incorporated in many networks  
10 for applications such as building automation.